

## **REMARKS**

The Applicant has now had an opportunity to carefully consider the comments set forth in the Office Action that was mailed February 3, 2009. All of the rejections are respectfully traversed. Amendment to restore **claim 5** as new **claim 28** as well as to correct the dependency of **claim 6** and to correct typographical errors. Re-examination and reconsideration are respectfully requested.

### **The Office Action**

In the Office Action that was mailed February 3, 2009:

the specification was objected to for including an informality;

**claims 6** and **7** were rejected under 35 USC §112, second paragraph, for depending from a canceled claim;

**claims 1, 2, 8-10, 22** and **23** were rejected under 35 USC §102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0190498 by Kallio et al. ("Kallio");

**claims 3, 4, 11** and **12** were rejected under 35 USC §103(a) as being unpatentable over Kallio in view of U.S. Patent No. 7,286,521 to Jackson et al. ("Jackson");

**claims 6, 7, 13** and **15** were rejected under 35 USC §103(a) as being unpatentable over Kallio in view of U.S. Patent Application Publication No. 2008/0044087 by Levy et al. ("Levy");

**claim 14** was rejected under 35 USC §103(a) as being unpatentable over Kallio in view of Jackson and further in view of Levy; and

**claims 24-27** were rejected under 35 USC §103(a) as being unpatentable over Kallio in view of U.S. Patent Application Publication No. 2002/0115432 by Roeder ("Roeder").

### **The Present Application**

By way of brief review, the present application is directed toward methods and systems that apply identifiers to originating and terminating half-calls. For example, an audio watermark (Title) is added to each half-call so that, for example, an internet protocol gateway can recognize half-calls, based on information included in the half-

calls themselves, as being related and, for example, interconnect or provide information for interconnecting the two half-calls in order to complete or terminate a call.

According to the subject matter of the present application, an IP gateway is able to terminate and maintain a call without the assistance of a Class 5 switch. That is, in systems that rely on a combination of a switch and an IP gateway to route calls distributing the switching responsibility to the switch and IP services to the gateway, where in prior art systems the Class 5 switch was included in the call for the duration of the call, the identifiers supplied by the methods and systems of the present application allow the IP gateway to recognize both the originating and terminating legs of the call and to interconnect them and allow the resources of the switch to be devoted to the establishment of other calls (e.g., see paragraphs 18-24 of the present application and compare Figs. 1 and 2).

#### **The Claims Comply with 35 USC §112, Second Paragraph**

**Claims 6** and **7** were rejected under 35 USC §112, second paragraph, for depending from a cancelled claim. However, **claim 6** has been amended to depend from new **claim 28**. **Claim 7** depends from **claim 6**. Accordingly, **claims 6** and **7** comply with 35 USC §112, second paragraph.

#### **The Claims Are Not Anticipated**

**Claims 1, 2, 8-10, 22** and **23** were rejected under 35 U.S.C. 102(e) as being anticipated by Kallio.

However, Kallio does not disclose applying identifiers to respective half-calls.

For example, in regard to **claims 1** and **8**, the primary reference of the Office Action to Kallio allegedly discusses a method, system and gateway device for enabling interworking between IP and circuit switched networks. In particular, Kallio appears to be related to Session Initiated Protocol (SIP) conferencing services and interworking such services with circuit switched domains (paragraphs 6 and 8). In an effort to support the assertion that Kallio discloses applying identifiers to originating half-calls and to terminating half-calls, the Office Action cites paragraph 37 of Kallio.

However, while paragraph 37 indicates that a call leg is identified by a

combination of call-ID, originator (From header) and final recipient (To header), paragraph 37 does not disclose or suggest that such information is applied to a half-call. Indeed, in the very next sentence (from the one just paraphrased) Kallio indicates that SIP Uniform Resource Locators (URLs) are used within SIP messages to indicate the originator, current destination (Request-URI) and final recipient of a SIP request and to specify redirection addresses. Paragraph 7 of Kallio indicates that SIP is an application-layer control protocol for creating, modifying and terminating sessions with one or more participants. Accordingly, it is respectfully submitted that paragraph 37 indicates how call legs are identified in a control layer. It is respectfully submitted that paragraph 37 of Kallio does not disclose or suggest that identifiers are applied to the call legs themselves.

Moreover, Kallio **does not disclose** using audio watermarks as the identifiers.

Cited paragraph 42 only serves to bolster the position of the Applicant, as it discusses a REFER control message.

With regard to --examining terminating half-calls to detect the identifiers, the Office Action cites paragraphs 53 and 56 of Kallio. However, the cited paragraphs do not disclose or suggest examining a terminating half-call.

Instead, paragraph 53 discusses methods for an MGCF to inform participant B of a conference. In the described example, participant B is a GSM subscriber and cannot be contacted by using a REFER message. Therefore, the MGCF attempts to establish a circuit switched call towards the participant B. Subsequently, a gateway mobile switching center performs a query to a home location register to route the call to participant B. Eventually, a visiting MSC tries to alert the participant B of an incoming speech call. It is respectfully submitted that **none of this discloses** examining a terminating half-call to detect an identifier.

Cited paragraph 56 addresses a signaling diagram indicating a more detailed description of the message sequence exchanged in the procedures of Fig. 4 and Fig. 5 of Kallio, which are partially addressed in paragraph 53 discussed above. While paragraph 7 includes the word --identity--, it does so in the context of a discussion of checking whether the identity of the subscriber received in a request-URI of the REFER message is the correct one. It is respectfully submitted that paragraph 56 of Kallio **does**

**not disclose** examining a terminating half-call to detect an identifier. For at least the foregoing reasons, **claims 1 and 8**, as well as **claims 2-4, 6-7 and 9-15**, which depend respectively therefrom, is not anticipated by Kallio.

With regard to the recitation in **claim 1** of --upon detection of the identifiers, the terminating half-calls accompanying the detected identifiers and the originating half-calls to which the identifiers were applied are recognized as associated pairs of half-calls--, the Office Action cites paragraphs 14 and 55 of Kallio.

However, even as characterized by the Office Action, paragraph 14 discusses --connecting the first and second call legs to form a single connection--. Paragraph 55 is characterized by the Office Action as --connects the call leg on the IMS side and the call leg on the side of the participant B of the connections in the IMS-MGW. Thus, an end-to-end speech connection is established--. In this regard, it is noted that **even as characterized by the Office Action**, the cited paragraphs do not discuss making such connections --upon detection of the identifiers--.

For at least the foregoing additional reasons, **claims 1 and 8**, as well as **claims 2-4, 6-7 and 9-15**, which depend respectively therefrom, are not anticipated by Kallio.

With regard to the recitation in **claim 2** of, as phrased by the Office Action, --prior to applying identifiers, receiving the originating half-calls from the calling consumer premises equipment over a packet-switched network--, the Office Action cites paragraphs 15 and 11.

However, paragraph 15 describes a gateway device that is configured to receive a trigger message including address information. In response, the gateway device establishes first and second call legs. Accordingly, paragraph 15 **does not disclose** receiving an originating half-call from calling consumer premises equipment. Moreover, paragraph 15 **does not disclose** receiving an originating half-call prior to applying an identifier.

Cited paragraph 11 discusses forwarding a first address information of a first connection end located in a circuit switched network in a trigger message routed from an IP based network to a gateway control function. Accordingly, paragraph 11 **does not disclose** receiving an originating half-call from calling consumer premises equipment. Moreover, paragraph 11 does not disclose receiving an originating half-call

from calling consumer premises equipment prior to applying identifiers.

For at least the foregoing reasons, **claim 2** is not anticipated by Kallio.

With regard to --after applying the identifier, directing the received originating half-calls to a circuit switched network for routing, the Office Action cites paragraph 55 and with regard to --prior to examining the terminating half-calls, receiving the terminating half-calls from the circuit-switched network--, the Office Action cites paragraph 53 of Kallio.

However, paragraph 55 discusses step 14 of a method of Kallio. As depicted in Fig. 6, step 14 is related to a communication between an MGCF and an MRFC. As clearly depicted in Fig. 5, an MRFC is clearly located in the IMS domain. Accordingly, paragraph 55 is clearly **not** directed toward directing a received originating half-call to a circuit switched network for routing as, according to paragraph 6 of Kallio, the IMS domain includes all core network (CN) elements for provisioning of IP multimedia services, and as depicted in Fig. 5, is clearly separate from the circuit switched domain. Even if paragraph 55 addresses --end-to-end speech connection is established between the conference functionality of the IMS domain and the participant B in the CS domain--, as asserted by the Office Action, that **does not disclose** directing the received originating half-calls to a circuit switched network for routing after applying an identifier.

For at least the foregoing additional reasons, **claim 2** is not anticipated by Kallio.

Cited paragraph 53 indicates that the MGCF, which represents the external participant B located in the circuit switch domain takes active role in order to successfully inform he participant B of the conference. Since participant B is a GSM subscriber, participant B cannot be contacted by using the REFER message. Therefore, the MGCF attempts to establish a circuit switched call towards the participant B. However, discussion of taking an active role in order to successfully inform the participant of a conference **does not disclose** --prior to examining the terminating half-calls, receiving the terminating half-calls from the circuit switched network--. Clearly, paragraph 53 discusses placing calls to the circuit switched network and **not** receiving calls from the circuit switched network. Moreover, Kallio does not disclose or suggest doing anything --prior to examining the terminating half-calls--.

For at least the foregoing additional reasons, **claim 2**, as well as **claims 3 and 4**, which depend therefrom, is not anticipated by Kallio.

Additionally, it is noted that the Office Action does not address the recitation in **claim 2** of --prior to step (b) [examining terminating half-calls], receiving the terminating half-calls from the circuit switched network. In this regard, it is noted that, as indicated in the MPEP at §2131, to anticipate a claim, the reference must teach every element of the claim. "The identical invention must be shown in as complete detail as is contained in the...claim" and "the elements must be arranged as required by the claim". It is respectfully submitted that Kallio does not disclose receiving a terminating half-call from a circuit switched network prior to examining the terminating half-calls to detect identifiers.

For at least the foregoing additional reasons, **claim 2**, as well as **claims 3 and 4**, which depend therefrom, is not anticipated by Kallio.

With regard to the recitation in **claim 2** related to --after examining terminating half-calls, directing the received terminating half-calls to the called consumer premises equipment over the packet switched network, the Office Action again cites paragraph 55, which the Office Action characterizes as discussing an end-to-end speech connection being established between the conference functionality of the IMS domain and the participant B in the CS domain.

However, even if paragraph 55 indicates that such a connection is established, that **does not disclose** --after examining terminating half-calls for identifiers, directing received terminating half-calls to the called consumer premises equipment over the packet switched network. It is respectfully submitted that paragraph 55 addresses step 14 of the method of Kallio and as indicated in Figs 6 and 5, the activity in step 14 is directed from an MGCF to an MRFC. Fig. 5 clearly depicts an MRFC as being in the IMS domain and not in the circuit switched domain.

For at least the foregoing additional reasons, **claim 2**, as well as **claims 3-4**, which depend therefrom, is not anticipated by Kallio.

**Claim 8** was rejected according to the same explanation as provided with regard to **claim 1**. Accordingly, arguments similar to those submitted in support of **claim 1** are submitted in support of **claim 8**.

With regard to the first element in **claim 9**, the Office Action cites paragraphs 125 and 11 of Kallio.

However, discussion of a gateway device being configured to receive a trigger message including a first address and a second address and in response establishing a second call leg toward a second connection **does not disclose** receiving an originating half-call from calling consumer premises equipment over a packet switched network, as recited in **claim 9**.

For at least the foregoing additional reasons, **claim 9** is not anticipated by Kallio.

With regard to the second element recited in **claim 9**, the Office Action cites paragraph 10 of Kallio.

However, while paragraph 10 refers to a method of enabling interworking between an IP based network and a circuit switched network, paragraph 10 **does not disclose** translating a received originating half-call from a packet switched call format to a circuit switched call format such that each originating half-call defines an originating half-call routing path having a packet switched portion and a circuit switched portion, as is recited in **claim 9**.

For at least the foregoing additional reasons, **claim 9** is not anticipated by Kallio.

With regard to the third element recited in **claim 9**, the Office Action cites paragraph 55.

However, paragraph 55 discusses step 14 of Kallio wherein the MGCF establishes a new SIP session towards the actual SIP URI received from the Refer-To header of the REFER message. As depicted in Figs. 6 and 5, this activity is directed toward the IMS domain and **not** to a circuit switched network. Moreover, paragraph 55 **does not discuss** translating an originating half-call or directing a translated originating half-call to a circuit switched network for routing.

With regard to the fourth element of **claim 9**, the Office Action cites paragraph 53.

However, paragraph 53 discusses informing participant B located in the CS domain of a conference. Paragraph 53 **does not discuss** receiving a terminating half-call from the circuit switched network. Paragraph 53 also discusses step 10, wherein a gateway mobile switching center performs a query to the home location register of the

GSM network in order to route a call to participant B.

Paragraph 53 also discusses step 11, wherein visiting MFC tries to alert participant B of an incoming speech call. Accordingly, paragraph 53 is directed toward alerting participant B in the circuit switched network of a call directed to the participant (and therefore to the circuit switched network). Therefore, paragraph 53 **does not disclose** receiving the terminating half-calls from the circuit switched network.

For at least the foregoing additional reasons, **claim 9** is not anticipated by Kallio.

With regard to the fifth element of **claim 9**, the Office Action cites paragraph 10 of Kallio. However, while paragraph 10 indicates that Kallio allegedly presents a method for enabling interworking between an IP-based network and a circuit switched network, paragraph 10 **does not mention** translating and more particularly does not mention translating received terminating half-calls from a circuit switched call format to a packet switched call format such that each terminating half-call defines a terminating half-call routing path having a packet switched portion and a circuit switched portion as recited in **claim 9**.

With regard to the sixth element of **claim 9**, the Office Action again cites paragraph 55 of Kallio.

However, as indicated above, paragraph 55 is directed toward establishing a new SIP session towards the actual SIP URI received from a Refer-to header of the REFER message. Even if paragraph 55 indicates that an end-to-end speech connection is established, it is respectfully submitted that paragraph 55 **does not disclose** that such a connection is established in the manner recited in **claims 8 and 9**, and paragraph 55 does not disclose or suggest directing translated terminating half-calls to called consumer premises equipment over a packet switched network, as recited in **claim 9**.

For at least the foregoing additional reasons, **claim 9** is not anticipated by Kallio.

With regard to **claim 10**, the Office Action asserts that reference 40 of Fig. 1 is a gateway bridging a packet switched network and a circuit switched network. However, it is respectfully submitted that the mere depiction of a gateway in Fig. 1 **does not disclose** that such a gateway is a translation means of the type recited in **claim 9**.

For at least the foregoing additional reasons, **claim 10** is not anticipated by Kallio.



With regard to the first element of **claim 22**, the Office Action asserts that Kallio discloses applying identifiers...and cites paragraphs 37 and 42. However, the first element of **claim 22** recites an audio watermark generator that applies identifiers to a first leg of calls routed through the gateway said identifiers distinctly identifying the respective calls to which they are applied from one another. It is respectfully submitted that Kallio **does not disclose** the gateway comprising such an audio watermark generator.

For at least the foregoing reasons, **claim 22** is not anticipated by Kallio.

With regard to the second element recited in **claim 22**, the Office Action asserts that Kallio discloses examining a second call leg of calls routed through the gateway to detect identifiers and cites paragraphs 53 and 56 in support of this assertion. However, **claim 22** recites an audio watermark sensor that examines a second leg of calls routed through the gateway to detect for identifiers. It is respectfully submitted that Kallio, even in paragraphs 53 and 56, does not disclose an audio watermark sensor included in a gateway.

For at least the foregoing additional reasons, **claim 22** as well as **claims 23-27**, which depend therefrom, is not anticipated by Kallio. Additionally, the Office Action makes references to parameters of a REFER message. However, it is respectfully submitted that discussion of parameters of a REFER message does not disclose identifiers applied to call legs themselves or examining call legs for such identifiers. Moreover, discussion of REFER message parameters does not disclose or suggest audio watermark generators or audio watermark sensors.

For at least the foregoing additional reasons, **claim 22**, as well as **claims 23-27**, which depend therefrom, is not anticipated by Kallio.

### **The Claims Are Not Obvious**

**Claims 3, 4, 11 and 12** were rejected under 35 USC §103(a) as being unpatentable over Kallio in view of Jackson.

In this regard, the Office Action stipulates that Kallio does not explicitly disclose eliminating the circuit switched portions and reducing the routing paths to only their packet switched portions and relies on column 7, lines 31-37, of Jackson for disclosure

of this subject matter.

However, the cited paragraph indicates that --thus, despite only using the VoIP technologies in the last "100 meters" or so, e.g. within a server room, some significant functionality becomes available that also serves to increase flexibility: easier multi-party features and elimination of reserved circuit capacity. In one embodiment, VoIP can be viewed as providing an abstraction layer to the circuit switched network--. It is respectfully submitted that discussion of using VoIP technologies within a server room **does not disclose or suggest**, for example, upon recognizing associated pairs of half-calls, the respective second ends of the half-calls forming each pair are connected to one another so as to eliminate the circuit-switched portions from the originating and terminating half-call routing paths defined thereby, as recited in **claim 4**. Similar assertions are applicable to **claims 3, 11 and 12**. In this regard, the attention of the Examiner is directed toward Fig. 2 of the present application which depicts calling consumer premises equipment (CPE) 60 and called CPE 90 wherein, during call setup, a call leg is routed through the IP gateway 64 through the switch 72 back through the IP gateway toward the called CPE 90. In the prior art, as depicted in Fig. 1, resources of the switch and the gateway remain allocated to the call for the entire duration of the call. According to the present application, because of the identifying information included in the call legs themselves, the IP gateway 64 is able to identify associated originating and terminating legs of the call at the IP gateway and interconnect them as depicted with the solid lines, thereby enabling the release of the switch resources to be used for routing other calls.

It is respectfully submitted that the cited portion of Jackson, even in combination with Kallio, **does not disclose or suggest** the recognition of associated pairs of half-calls and their interconnection as recited in **claims 3 and 4** or means therefor as recited in **claims 11 and 12**.

For at least the foregoing reasons, **claims 3, 4, 11 and 12** are not anticipated and are not obvious in light of Kallio and Jackson.

Additionally, the **Office has not met its burden** of presenting a *prima facie* case of obviousness. Kallio does not suggest any inefficient use of network resources. Accordingly, there is no motivation to include some technique from Jackson into the

system of Kallio in order to use network resources more efficiently, as asserted by the Office Action. Moreover, since Jackson does not disclose the routing or release of routing paths or circuit switched portions of routing paths, combining Kallio with Jackson would not arrive at the subject matter of **claims 3, 4, 11 and 12**.

For at least the foregoing additional reasons, **claims 3, 4, 11 and 12** are not anticipated and are not obvious in light of Kallio and Jackson.

**Claims 6, 7, 13 and 15** were rejected under 35 USC §103(a) as being unpatentable over Kallio in view of Levy.

In this regard, the Office Action stipulates that Kallio does not disclose superimposing audio watermarks on traffic, where the audio watermarks are substantially unperceivable by the end users. In this regard, the Office Action relies on paragraph 55 of Levy and asserts that Levy discloses superimposing audio watermarks on traffic, where the audio watermarks are substantially unperceivable by the end user.

However, Levy relates to "**digital** watermarking" (paragraph 2). While paragraph 55 uses the phrase --audio watermarks transitional ID--, it is respectfully submitted that this is a reference to a digital watermark associated with audio content (first sentence of paragraph 55; first sentence of paragraph 51; paragraph 51, line 7; paragraph 52; paragraph 54, lines 1-8). Accordingly, it is respectfully submitted that **Levy does not disclose or suggest** superimposing audio watermarks on traffic being delivered via the originating half-calls, as recited in **claim 6** or wherein the audio watermarks are substantially unperceivable by end users employing the consumer premises equipment, as recited, for example, in **claim 7**. As indicated in the portions of Levy cited by the Applicants above, Levy uses the phrase --audio watermark-- to distinguish between a digital watermark applied to an audio channel and a digital watermark applied to video content.

For at least the foregoing reasons, **claims 6, 7, 13 and 15** are not anticipated and are not obvious in light of Kallio and Levy.

Furthermore, the Office has not met its burden of presenting a *prima facie* case of obviousness. Kallio does not express any need to track users. Accordingly, there is no motivation in the art to combine subject matter from Levy with subject matter for Kallio in order to identify a user for tracking as suggested by the Office Action. The only

motivation for combining subject matter from Levy with subject matter from Kallio is information gleaned only from the present application. Accordingly, the rejection of **claims 6, 7, 13 and 15** is based on **impermissible hindsight** reasoning, and again, **claims 6, 7, 13 and 15** are not anticipated and are not obvious in light of Kallio and Levy.

**Claim 14** was rejected under 35 USC §103(a) as being unpatentable over Kallio in view of Jackson and further in view of Levy. In this regard, the Office Action again stipulates that Kallio does not disclose superimposing audio watermarks on traffic, where the audio watermarks are substantially unperceivable by the end user and again relies on paragraph 55 of Levy for this disclosure. However, as indicated above, it is respectfully submitted that Levy uses the phrase --audio watermark-- to refer to a digital watermark applied to audio content to distinguish it from a digital watermark applied to video content and does not disclose or suggest superimposing an audio signal, as the phrase "audio watermark" is meant to convey in the present application on traffic being delivered via an originating half-call or means for superimposing same as is recited in **claim 14**.

For at least the foregoing reasons, **claim 14** is not anticipated and is not obvious in light of even three references including Kallio, Jackson and Levy.

Additionally, the Office Action has not met its burden of presenting a *prima facie* case of obviousness. In this regard, the Office Action makes the same assertions with regard to motivation to combine Kallio and Levy as are made with regard to **claims 6, 7, 13 and 15**. Accordingly, arguments similar to those submitted with regard to lack of motivation for the combination and impermissible hindsight reasoning made with regard to **claims 6, 7, 13 and 15** are made with regard to **claim 14**.

**Claims 24-27** were rejected under 35 USC §103(a) as being unpatentable over Kallio in view of Roeder.

In this regard, the Office Action stipulates that Kallio does not disclose a gateway that appears as a remote digital terminal, a class 5 switch, a GR-303 interface and a V.5.2 interface and relies on paragraphs 68, 82 and 83 of Roeder.

However, the cited paragraphs mention the respective devices, i.e., a digital terminal, a class 5 switch, a GR-303 and a V.5.2 interface - but they **do not disclose or**

**suggest** a gateway that appears to be these devices. In particular, the Office Action characterizes paragraph 68 as discussing forwarding calls to a gateway using remote call forwarding. However, **that does not disclose or suggest** that the gateway appears to be any of the things recited in **claims 24-27**. For at least the foregoing reasons, **claims 24-27** are not anticipated and are not obvious in light of Kallio and Roeder.

### Telephone Interview

In the interests of advancing this application to issue the Examiner is invited to telephone the undersigned to discuss the foregoing or any suggestions that the Examiner may have to place the case in condition for allowance.

### CONCLUSION

**Claims 1-4, 6-15 and 22-27** remain in the application. **Claim 28** has been added to replace inappropriately canceled **claim 5**. **Claim 6** has been amended to depend from new **claim 28**. **Claim 22** has been amended to correct a typographical error and is now fully supported by original **claim 16**. The amendments do not require a new search. For at least the foregoing reasons, the application is in condition for allowance. Accordingly, an early indication thereof is respectfully requested.

Respectfully submitted,

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